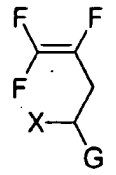
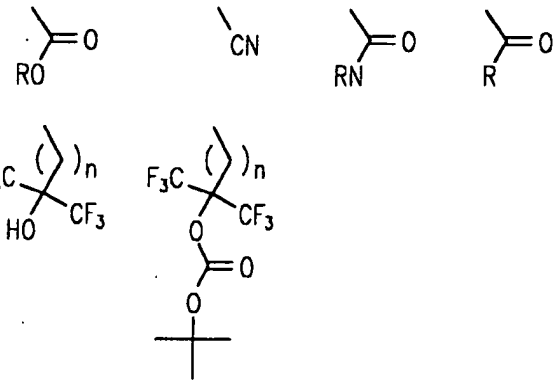
WHAT IS CLAIMED IS:

1. A photosensitive polymer having a trifluorovinyl derivative monomer as a repeating unit and having a weight average molecular weight of about 3,000 to about 100,000, the trifluorovinyl derivative represented by the following formula:



wherein X is a C_1-C_5 alkyl group with or without fluorine substituent, and G is at least one selected from the group consisting of:

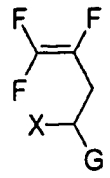


wherein R is a primary, secondary or tertiary C_1-C_{10} alkyl, tetrahydropyranyl, tetrahydrofuranyl or 1-ethoxyethyl group, and n is an integer from 1 to 5.

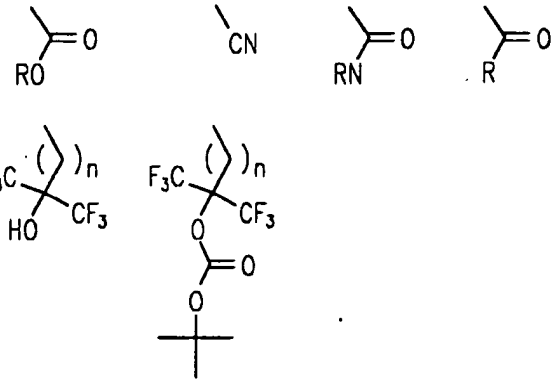
2. The photosensitive polymer according to claim 1, wherein the photosensitive polymer is a polymerization product of the trifluorovinyl derivative monomer and at least one monomer selected from the group consisting of a fluorine-substituted or unsubstituted (meth)acrylic acid monomer, (meth)acrylate monomer, styrene monomer, norbornene monomer, tetrafluoroethylene monomer and maleic anhydride monomer.

3. A resist composition comprising:

a photosensitive polymer having a trifluorovinyl derivative monomer as a repeating unit and having a weight average molecular weight of about 3,000 to about 100,000, the trifluorovinyl derivative represented by the following formula:



wherein X is a C_1-C_5 alkyl group with or without fluorine substituent, and G is at least one selected from the group consisting of:



wherein R is a primary, secondary or tertiary C_1-C_{10} alkyl, tetrahydropyranyl, tetrahydrofuranyl or 1-ethoxyethyl group, and n is an integer from 1-5; and

a photoacid generator in an amount of about 1 to about 15% by weight based on the total weight of the photosensitive polymer.

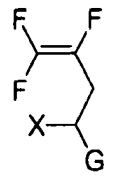
4. The resist composition according to claim 3, wherein the photosensitive polymer is a polymerization product of the trifluorovinyl derivative monomer and at least one monomer selected from the group consisting of a fluorine-substituted or unsubstituted (meth)acrylic acid monomer, (meth)acrylate monomer, styrene monomer, norbornene monomer, tetrafluoroethylene monomer and maleic anhydride monomer.

5. The resist composition according to claim 3, further comprising an organic base in an amount of about 0.01 to about 2.0% by weight based on the total weight of the photosensitive polymer.

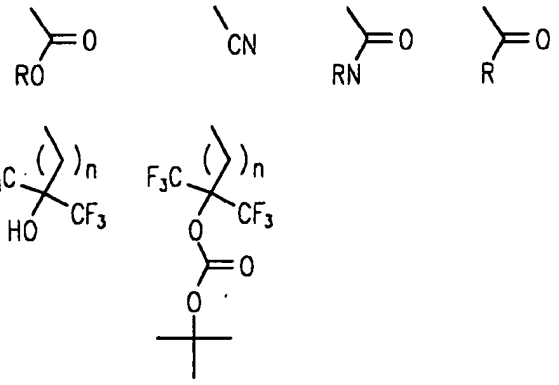
6. A patterning method comprising:

(a) coating a resist composition on a substrate, wherein the resist composition comprises:

a photosensitive polymer having a trifluorovinyl derivative monomer as a repeating unit and having a weight average molecular weight of about 3,000 to about 100,000, the trifluorovinyl derivative represented by the following formula:



wherein X is a C_1-C_5 alkyl group with or without fluorine substituent, and G is at least one selected from the group consisting of:



wherein R is a primary, secondary or tertiary C_1-C_{10} alkyl, tetrahydropyranyl, tetrahydrofuranyl or 1-ethoxyethyl group, and n is an integer from 1-5; and

a photoacid generator in an amount of about 1 to about 15% by weight based on the total weight of the photosensitive polymer;

(b) exposing the resist layer using an exposure light source having a wavelength of 157 nm or less; and

(c) developing the exposed resist layer to form a resist pattern.

7. The patterning method of claim 6, wherein the photosensitive polymer is a polymerization product of the trifluorovinyl derivative monomer and at least one monomer selected from the group consisting of a fluorine-substituted or unsubstituted (meth)acrylic acid monomer, (meth)acrylate monomer, styrene monomer, norbornene monomer, tetrafluoroethylene monomer and maleic anhydride monomer.

8. The patterning method of claim 6, wherein the resist composition further comprises an organic base in an amount of about 0.01 to about 2.0% by weight based on the total weight of the photosensitive polymer.